

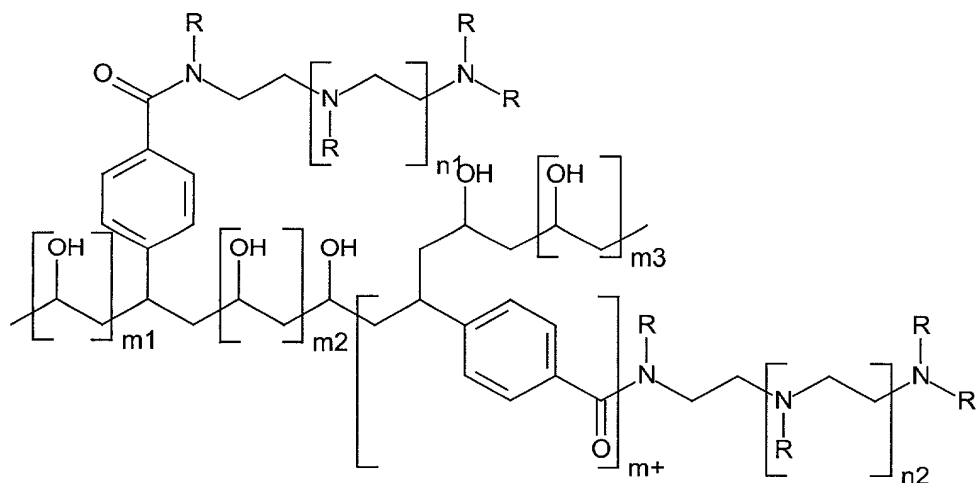
1. An additive for a printing vehicle, comprising:
  - a block co-polymer comprising
    - a first block comprising a pendant group selected to interact with a substrate via a member of hydrogen bonding,  $\pi$ -bond interactions, Van der
    - 5 Walls forces, and any combination of the above; and
    - a second block comprising a member of an acidic, basic, charged, and chargeable moiety,
    - wherein the first block comprises at least 6 pendant groups and the second block comprises at least 6 acidic, basic, charged or chargeable groups.
- 10 2. The additive of claim 1, wherein the block co-polymer has a molecular weight between 500 and 500,000.
3. The additive of claim 2, wherein the block co-polymer has a molecular weight
- 15 between 500 and 10,000.
4. The additive of claim 2, wherein the block co-polymer has a molecular weight between 1,000 and 500,000.
- 20 5. The additive of claim 1, wherein the pendant group in the first block comprises a hydroxyl group.
6. The additive of claim 5, wherein the first block comprises poly(vinyl alcohol), poly(allyl alcohol), or poly(vinyl phenol).
- 25 7. The additive of claim 5, wherein the first block comprises a linker group interposed between the hydroxyl group and the polymer backbone.
8. The additive of claim 1, wherein the second block comprises a member of
- 30 poly(ethylene imine), methylated poly(ethylene imine), poly(diallyldimethylamino chloride), polymerized styrene maleic anhydride, and a polymer having a carboxylated pendant group.

9. The additive of claim 8, wherein the polymer having a carboxylated pendant group comprises a linker group, wherein the linker group comprises an aliphatic moiety, an aromatic moiety, or both.

10. The additive of claim 1, further comprising a linker group separating the first and second blocks.

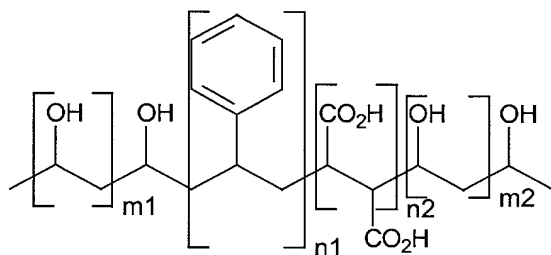
11. The additive of claim 10, wherein the linker group comprises at least one mer of polymerized vinyl benzoate.

12. The additive of claim 1, wherein the block co-polymer comprises,



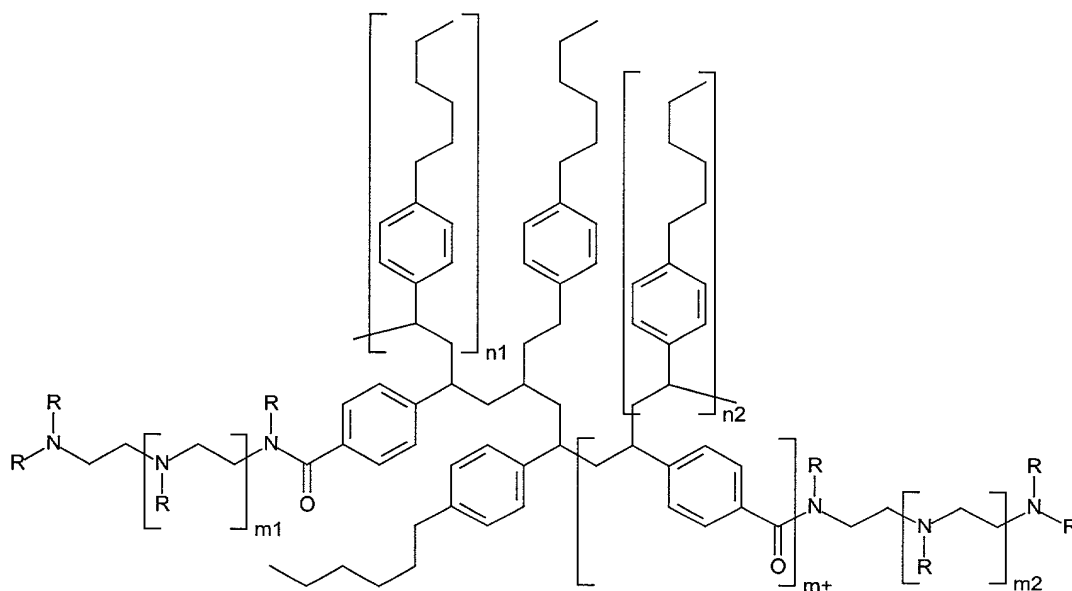
wherein m and n are at least 6 and the molecular weight is between 1,000 and 500,000.

13. The additive of claim 1, wherein the block co-polymer comprises,



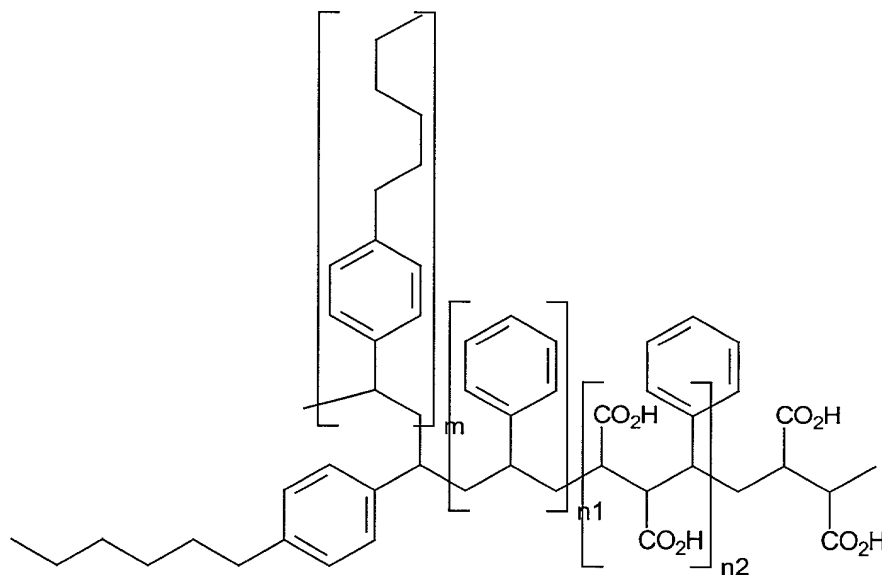
wherein m is at least 6, n is at least 2 and the molecular weight is between 1,000 and 500,000.

14. The additive of claim 1, wherein the block co-polymer comprises,



wherein m and n are at least 6 and the molecular weight is between 1,000 and 500,000.

15. The additive of claim 1, wherein the block co-polymer comprises,



wherein m is at least 6, n is at least 2, and the molecular weight is between 1,000 and 500,000.